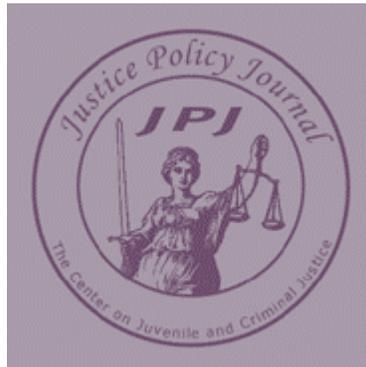


**Racial Disproportionality in the American
Prison Population: Using the Blumstein
Method to Address the Critical Race and
Justice Issue of the 21st Century**

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Abstract

Statistics indicate that racial/ethnic minorities, particularly black and Hispanic males, face a disproportionately high risk of incarceration in the United States. We argue that this is the most serious issue facing contemporary criminal justice policymakers. This determination is made by assessing the negative impact that incarceration can have on individuals, their communities, and the integration of minorities into the nation's larger social, economic, and political landscape. Our paper also reviews literature that uses Alfred Blumstein's method of calculating the amount of racial disproportionality in prisons that is explained by arrest rates. This review identifies a number of themes in the research. Two key themes are that a national figure of explained racial disparity in imprisonment is not generalizable to the states and that drug offenses consistently have one of the lowest amounts of disproportionality explained by arrest. The paper concludes by discussing several new opportunities to use Blumstein's method in the study of race and justice. A couple of these opportunities include using the Blumstein method to monitor locations of potential discrimination across the country and guide research on judicial discrimination in prison sentencing.

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Racial Disproportionality in the American Prison Population: Using the Blumstein Method to Address the Critical Race and Justice Issue of the 21st Century

Introduction

There is irrefutable evidence that blacks comprise a disproportionate share of the U.S. prison population. At the end of 2005, there were 1,525,924 persons incarcerated in state and federal prisons; 40 percent of these inmates were black, 35 percent were white, and 20 percent were Hispanic (Harrison & Beck 2006). Blacks, in other words, comprise about 12 percent of the U.S. population but two-fifths of the prison population. The disparities are even more dramatic for males, and particularly for males in their twenties and thirties. In 2005, 8.1 percent of all black males age 25 to 29 were in prison, compared to 2.6 percent of Hispanic males and 1.1 percent of white males. Although the absolute numbers are much smaller, the pattern for females is similar.

The crimes for which racial minorities and whites are imprisoned also differ. Although the proportions held in state prisons in 2005 for violent offenses were similar, blacks and Hispanics were much more likely than whites to be imprisoned for drug offenses. Twenty-four percent of the blacks and 23 percent of the Hispanics were imprisoned for drug offenses, compared to only 14 percent of the whites (Harrison & Beck 2006). These disparities are noteworthy given that drug offenses constitute a larger share of the growth in state prison inmates for minorities than for whites (Bureau of Justice Statistics 2000).

Other statistics confirm that racial minorities face a disproportionately high risk of incarceration. Blacks are incarcerated at 5.6 times, and Hispanics 1.8 times, the rate of whites (Mauer & King 2007). There also are substantial racial and ethnic differences in the “lifetime

likelihood of imprisonment.” If incarceration rates remain the same, one in three black males born in 2001 will go to prison during their lifetime, compared to one in six Hispanic males and one in seventeen white males (Bonczar 2003).

As these statistics indicate, blacks and Hispanics—and particularly black and Hispanic males—are substantially more likely than whites to be locked up in our nation’s prisons.

Even so, disparity is not necessarily tantamount to discrimination. Disparity only denotes a difference in outcomes, indicating that discrimination *might* be present. Discrimination involves a difference attributable to unequal treatment through such things as unfair policies and practices (Walker, Spohn & DeLone 2004). Research on sentencing decisions in which incarceration is an option suggests that discrimination occurs in some cases. For example, black and Hispanic males who are young and unemployed have been incarcerated more severely than similarly situated white males, even when severity of the offense and criminal history were taken into account (for reviews, see Kansal 2005; Spohn 2000).

Although research on prison sentencing helps to identify if discrimination exists in imprisonment, it is limited in geographical scope. That is, sentencing research is limited to studying a small number of counties, and often just a single county. Fortunately, calculations of potential discrimination are possible regardless of location through a method introduced by Alfred Blumstein in 1982. This method involves examining the disparity in incarceration (e.g., black versus white incarceration rates) in comparison to disparity in arrests (e.g., black versus white arrest rates). Blumstein’s approach determines how much racial or ethnic disproportionality in incarceration can be explained by differences in arrests. The proportion of

disproportionality that is unexplained represents the amount of potential discrimination in imprisonment.

In this paper we argue that racial disproportionality in incarceration is the most serious race and justice issue facing criminal justice policymakers. Further, we encourage a revitalized return to Alfred Blumstein's method of calculating the amount of explained racial disparity in imprisonment to examine the problem. We begin this paper by addressing why we believe that incarceration is more important than other aspects of the criminal justice system that negatively affect racial and ethnic minorities. Next, we explain Blumstein's method and review the relevant research. Our review focuses strictly on disproportionality in prison admissions and prisoner populations. Sentencing research is not reviewed as this literature has been addressed extensively elsewhere. The paper concludes by discussing several new and promising opportunities to incorporate the Blumstein method into the study of race and justice.

Race and Imprisonment as the Key Race and Justice Issue

Our determination that racial disproportionality in imprisonment is the race and justice issue that demands the most attention from researchers and policymakers reflects a number of factors. Criteria we considered in making this decision include: (1) the effects of disparate treatment on the racial/ethnic minority members themselves; (2) the effects of disparate treatment on the communities in which racial/ethnic minorities live; and (3) the impact on continued efforts to achieve greater integration of disconnected minority groups into the larger economic and cultural landscape of American society.

The Impact of Incarceration on Individuals

Among these three criteria, the effect of unequal incarceration on individuals is the most obvious in terms of its negative impact. Regardless of race or ethnicity, incarceration can be a painful, debilitating, and ultimately counterproductive experience. Prison inmates are vulnerable to *prisonization* (sometimes called *institutionalization*). Prisonization involves adopting “in greater or lesser degree the folkways, mores, customs, and general culture of the penitentiary” (Clemmer 1958[1940]: 8). Prisoner reactions to institutional life can include a dependence on the institutional structure, hypervigilance, interpersonal distrust, psychological distancing, exploitive behavior, a diminished sense of self-worth, and post-traumatic stress (Haney 2001: 7-12). Prison inmates also may be exposed to violent environments (Byrne, Hummer & Taxman 2008; Johnson 2002; Sykes 1958). Those who fall victim to prison violence suffer psychologically by experiencing depression, anger, and other negative emotional states (Wooldredge 1999). One universal feature of incarcerated life is that prisoners are constantly surrounded by other criminals. This predicament makes inmates highly vulnerable to internalizing (or more deeply internalizing) pro-criminal motives, values, and techniques (Akers 1997; Cullen & Gilbert 1982; Sutherland 1939). Further, incarceration causes separation from family members, friends, and other positive social supports. This social separation may lead a prisoner to feel disconnected from the outside world. In extreme cases, suicide becomes the final solution for coping with all the trauma of imprisonment (Liebling 1999).

The impact of incarceration extends well beyond the prison gates. As Austin and Irwin (2001: 136) have noted, “Prisoners confront extreme difficulties in adjusting to outside life and achieving basic viability, and most of their problems stem from having been a prisoner.” When

inmates are released, they may be confronted with a number of mental and emotional challenges, including post-release disorientation, difficulty adjusting to change, fear of failure, anxiety, and mistrust of and withdrawal from other people (Rollo 1988). Adding to these psychological impediments, prisoners usually go home with little money (McMurray 1993; Travis, Solomon & Waul 2001) and dim employment prospects (Holzer, Raphael & Stoll 2001; Sabol & Lynch 2003). Many of the employment opportunities that do exist for convicted felons lie in unskilled jobs with low wages and abysmal-to-nonexistent benefit packages (Taxman, Young & Byrne 2002). Relationships with family, which can facilitate social readjustment (Nelson, Deess & Allen 1999; O'Brien 2001; Petersilia 2003; Richie 2001), may be strained or dissolved due to the offender's absence (Petersilia 2003; Reentry National Media Outreach Campaign n.d.a). If family members are not willing to take in a released prisoner, suitable housing can be quite difficult to obtain (Travis et al. 2001). Finally, government assistance for housing, financial needs, and physical and mental health services is usually limited due to long waiting lists and offender-specific restrictions (Reentry National Media Outreach Campaign n.d.b; Rubinstein & Mukamal 2002; Taxman et al. 2002; Travis et al. 2001).

It is abundantly clear that prison reduces the human capital and darkens the future of those confined behind its walls (Clear & Rose 2003). Very simply, individuals are likely to leave prison in worse shape than when they entered (Foucault 1977). Consequently, any disproportional imprisonment due to discriminatory practices or policies can have grave implications for the afflicted individuals.

The Impact of Incarceration on Communities

Incarceration generates serious problems for communities as well as individuals. The overreliance on imprisonment as the primary solution to crime during the past few decades has resulted in the removal of huge numbers of people from society. Although removing criminals from the streets in many cases is a good idea, large-scale removal of relatively low-level offenders can carry the unintended consequence of pushing struggling communities further into the depths of disrepair. This is a key point that makes racial disproportionality in incarceration the central race and justice issue facing policymakers and researchers.

The problems engendered by incarceration are compounded by the fact that those who are released from prison are increasingly returning to a very small number of neighborhoods located in metropolitan areas across the country (Lynch & Sabol 2001). In fact, in 1996, 66% of offenders released from state correctional facilities returned to a county holding the central city of a metropolitan area. Only half of all state prisoners returned to such locations in 1984. This suggests that socially disorganized areas that have been scarred by the removal of many residents are also getting them back in high volumes and in relatively short periods of time.

The reason that incarceration can have a positive effect on some communities and a negative one on others is summed up quite articulately by Clear and Rose (2003: 29):

. . . removing offenders from socially *disorganized* areas may undermine other social control efforts there. Conversely, incarceration may reinforce social control efforts in socially *organized* areas. This occurs because social networks and ties, which are the foundations of local social control, are already weakened in disorganized areas. Incarceration weakens them further. The result of an overreliance on incarceration, then, is a reduction in human and social capital and an increase in social isolation. This has led to the proliferation of communities without the tools necessary for adequate informal social control. (emphasis in original)

Simply put, the excessive use of incarceration has a variety of social, cultural, and economic consequences that are counterproductive to community life. One study (Clear, Rose & Ryder 2001) found that the residents of two high-incarceration neighborhoods in Tallahassee, Florida, were more focused on the negatives of incarceration than the positives. These Tallahassee citizens identified four domains in which incarceration had a negative effect on their community:

(1) *The stigma factor*: Incarceration produces a negative stigma that undermines human and social capital, causes families to feel shame, and arouses the suspicion of neighbors when offenders return home; it also creates a negative reputation that hurts local businesses.

(2) *The financial cost of incarceration*: Families are strained by the loss of the breadwinner during incarceration and by the burden of supporting ex-prisoners during post-release. Due to financial troubles, these families have difficulty amassing human capital, which impairs their capacity to generate informal social control. Businesses can also suffer financially due to congregations of jobless ex-prisoners that drive away potential customers.

(3) *Identity problems*: Community residents living in high-incarceration areas must struggle with the reality of residing in a disreputable location. This can lead to identity problems, especially for children, in the forms of diminished self-esteem and self-worth. In such problem areas, “There is a loss of positive role models for children and, overall, the community experiences a sense of hopelessness and apathy” (Clear, Rose & Ryder 2001: 342).

(4) *Damage to community relationships*: The disruption of relationships is an inevitable outcome when a community suffers mass incarceration. The cumulative impact of this phenomenon is a depreciation of social supports among community residents. An offender’s

relationships with his/her spouse, children, and neighbors all incur strain from the effects of imprisonment. Ultimately, neighborhood networks can collapse from the return or relocation of ex-prisoners.

Clear and Rose (2003) provide additional insight into these matters. They note that extreme incarceration deprives social networks of some of their assets by removing people who fill important social roles, such as the roles of father, husband, and brother. Moreover, imprisoning men often has multiple implications for families, including “going onto welfare; moving into more cramped quarters and new school districts; family disruption, including the arrival of new male roles into the family, replacing the inmate; and reduced time for maternal parenting due to taking secondary employment” (Clear and Rose 2003: 39). High rates of incarceration, especially in communities plagued by social isolation and deterioration, also reduce opportunities for legitimate success; this, in turn, encourages nonconformity in the forms of crime and gang membership (Cloward & Ohlin 1960; Merton 1957). High rates of incarceration in socially disorganized neighborhoods, in other words, exacerbate social problems and raise crime levels.

The Impact of Incarceration on Racial/Ethnic Integration

The “get tough” policies of the war on crime and the war on drugs have hit racial/ethnic minorities and the communities in which they live the hardest. Between 1980 and 1996, the state and federal incarceration rate tripled (Blumstein & Beck 1999). This incarceration boom was fed by tough legislation against drug offenders; from 1983 to 1993, drug offender incarceration grew by over 500 percent (Zatz 2000). Blacks and Latinos have accounted for the vast majority of the drug war prison growth. Among state and federal prison admissions between 1979 and

1992, the percentage of blacks admitted climbed from 39 to 54 percent (Tonry 1995). Looking at state imprisonment rates, Zatz (2000: 525) remarked: “In the 5-year period from 1986 to 1991, the number of African-Americans incarcerated in State prisons for drug offenses increased by 465 percent. By 1994, African-Americans and Latinos constituted 90% of all drug offenders in State prisons.”

The continued experience of unequal punishment by aggrieved minorities—which, for blacks, is a continuation of a long struggle to achieve equality—can only have a negative impact. Any social isolation that is a byproduct of the incarceration boom is bound to reinforce existing feelings of social and political exclusion. As disproportionate incarceration continues, perceptions of exclusion and powerlessness will only intensify.

The disparate incarceration of blacks can impede the full integration of blacks into American life in a number of ways. First, disproportionately imprisoning blacks—especially when it is viewed as discriminatory—can reinforce longstanding negativity toward the criminal justice system. Public opinion polls show that blacks have much less faith in the criminal justice system than whites (see Ruddell 2004). As the justice system serves as the controlling arm of government, these unfavorable perceptions can spill over and fuel anger and resentment toward society itself. Crime can also increase, as people who believe the justice system is unfair are less likely to abide by the law (Tyler 1990). Clear and Rose (2003) highlight that one’s relationship to an incarcerated individual influences reactions to the justice system. They write:

Exposure to prison through a loved one or acquaintance . . . leads to more negative attitudes toward the justice system, because when faced with a conflict between agents of the state and close associates or family, people tend to take the side of the party with whom they are more intimate. They know that person’s history, and they can evaluate the person’s problem—even if it is a crime problem—with some sympathy. They may also

tend to view the unsympathetic, bureaucratic actions of the law in negative terms. (Clear & Rose 2003: 42)

A second obstacle to the complete integration of blacks is that incarceration reduces opportunities for upward economic mobility. In American society economic success helps to define self-identify and social standing. Any social group that collectively faces economic barriers will naturally feel isolated from the mainstream. Western, Pettit, and Guetzkow (2002) point out that incarceration has aggregate-level effects on economic wellbeing in addition to individual-level impacts. They note that a prison record reduces employment opportunities over an entire lifetime. This fact, along with blacks being incarcerated more than whites, means that the earnings gap between blacks and whites is widening. The implication here is that disproportional imprisonment has the potential to keep blacks confined to the lower class as a social group, not just as individuals. In addition, the stigma that gets attached to communities with high levels of incarceration can ripple out into the workforce. For example, employers sometimes refuse to hire blacks simply because blacks have become associated with prisons and crime. Blacks who witness such discrimination in the workforce may lose faith in the American Dream. This could motivate many blacks to question—or entirely reject—the legitimacy of America’s promise as a land of equal opportunity and lead to a collective sense of apathy.

The higher incarceration rates of blacks versus whites also mean that a smaller percentage of blacks are able to vote than whites. Forty-eight states prohibit prison inmates from voting, and 13 states can ban felons from voting for life (Mauer 2002). Clear and Rose (2003:43) comment that the political exclusion caused by incarceration can undermine the legitimacy of political activism and weaken “the capacity and willingness of individuals to engage in civic citizenry.” This is an especially salient issue for blacks given the exclusions and

limitations they have encountered historically in the American political process. Considering the combined impact on collective attitudes toward the criminal justice system, economic wellbeing, and the political process, it is hard to deny that racial disparity in imprisonment poses a serious threat to the perception and reality of the full integration of blacks into American society (see Tonry 1995).

We maintain that the impact of discrimination-motivated disparity in imprisonment has a much bigger impact on minorities than disparities at any other stage of the criminal justice process. Clearly, racial discrimination at arrest, during the pretrial process, and during sentencing is a cause for concern (see Weich & Angulo 2002). Discrimination at these stages in the criminal justice process results in cumulative disadvantage and increases the odds that racial minorities eventually will be incarcerated. But the critical point is that if incarceration sanctions were not sentencing options at the end of the criminal justice process (and consequently community-based sanctions and milder intermediate punishments were routinely imposed) than earlier discriminatory decisions would not result in nearly as much harm to the afflicted people, their communities, and efforts toward social integration.

Research on the Disproportionate Incarceration of Racial/Ethnic Minorities

The landmark study that examined the racial disproportionality in imprisonment was authored by Alfred Blumstein in 1982. At the time, Blumstein noted that imprisonment in the United States was severely disproportional along racial lines. A 7:1 ratio existed between black and white incarceration rates, with black males in their twenties incarcerated at a rate 25 times higher than the rate for the total population. Blumstein's (1982) research assessed the degree to which the racial disproportion in imprisonment could be attributed to differential involvement of

racial minorities in crime rather than differential treatment of racial minorities by the criminal justice system.

Blumstein argued that if no discrimination existed in the criminal justice system following the arrest phase, then blacks and whites would be imprisoned for a crime in the exact distribution as they were arrested for that crime. For example, if 35% of persons arrested for murder were black, you would expect 35% of the persons imprisoned for murder to be black. Therefore, if the race ratios of arrests for a particular crime are known (i.e., the fraction of arrestees that are black), *and*, the fraction of prisoners who are serving time for this crime are known, *then*, the expected racial distribution in prison in the absence of discrimination can be estimated. With an estimate of the expected racial distribution for a crime, the expected distribution of a racial group can be compared against the actual distribution. The difference between the two distributions gives an indication of the *possible* degree of post-arrest discrimination. The greater the difference, the more the racial group's disproportionality may be due to discrimination. Blumstein's focus is on the unfavorable disparity endured by blacks in prison. In order to determine the disproportionality accounted for by differential involvement in crime, the following equation was created:

$$\text{Explained disproportionality} = \frac{\text{Ratio of expected black-to-white incarceration rates based only on arrest disproportionality}}{\text{Ratio of black-to-white incarceration rates actually observed}}$$

Blumstein's Studies

The data for Blumstein's (1982) seminal study came from a 1974 Department of Justice survey of state prison inmates and the 1974 Uniform Crime Reports (UCR). The crimes

analyzed included violent, property, and drug offenses. From arrest data provided by the UCR and statistics on the 1974 inmates, Blumstein estimated that 42.7% of this incarcerated population would be expected to be black. The actual percentage of blacks incarcerated in 1974 was found to be 48.3%. Using his explained disproportionality equation, Blumstein found that 80% of the actual disproportionality in incarceration for all crimes combined was explained by the higher involvement of blacks in arrest. This meant that 20% of the difference between the incarceration rates of blacks and whites could be a result of discriminatory treatment.

Blumstein cautioned that the unexplained 20% could be caused, to some extent, by non-discriminatory factors. For example, he noted that blacks may have greater involvement in the most serious types of each crime, such as stranger-to-stranger homicide and armed robbery, which can lead to longer sentences. In addition, blacks sentenced by the courts may differ from whites in their criminal histories, education levels, and socioeconomic status, all of which may motivate harsher penalties. Even after considering these potentially intervening factors, Blumstein admitted that some amount of discrimination was probably at work as well.

Recognizing that his initial results were confined to data from a single year, Blumstein incorporated a second survey of inmates from 1979 into a “sensitivity check.” This sensitivity check was conducted for each year between 1970 and 1979, using UCR reports for each year and the 1974 and 1979 inmate surveys. The results showed that the expected percentage of blacks in prison ranged from 39-44% over a ten-year span, indicating minimal fluctuation over time. Using the 1979 inmate survey and the 1978 UCR, Blumstein again found that 80% of the disproportionality in the prison population was a product of differential involvement in arrest.

An interesting discovery in this study was that the degree of incarceration disproportionality unrelated to arrest was much higher for less serious offenses. The amount of the disproportionality for violent crimes that could not be explained by disproportionality at arrest was 2.8% for homicide, 5.2% for aggravated assault, 15.6% for robbery, and 26.3% for forcible rape. The percentages for property crimes were 33.1% for burglary and 45.6% for larceny/auto theft. Unexplained disproportionality was highest for drugs at 48.9%. Blumstein's results here support the *liberation hypothesis* which claims that more serious crimes, like murder, armed robbery, and rape, virtually dictate a strong form of punishment, leaving little room for discretion in sentencing. Conversely, the liberation hypothesis maintains that the appropriate punishment for less serious crimes (e.g., nonviolent and property offenses) is not as evident and affords more leeway in sentencing decisions (see Spohn & Cederblom 1991).

Blumstein (1993) conducted a follow-up study using the same calculation procedures with a 1991 survey of prison inmates. The distribution of prisoners by crime had changed significantly since the earlier study, with drug offenders increasing from 5.7% to 21.5% of all prisoners. Despite the upsurge in prison populations since the 1982 publication, the racial disproportionality of incarceration rates remained stable at a ratio of approximately 7 to 1. The proportion of disproportionality linked to arrest was also quite similar. The 1993 study showed that 76% of the racial differences in incarceration could be explained by differential involvement in arrest. This was a mere 4 percentage points lower than the figure found using 1979 inmate data. Although drug offenders had increased substantially in the inmate population, the percentage of racial disproportionality explained by arrest for drug-related incarceration among 1991 inmates (50%) was similar to what was found for 1979 inmates (51%). When drug cases

were excluded from the analysis, 93.8% of the racial disproportionality among the other crimes (homicide, robbery, and burglary) was accounted for by racial disproportionality at arrest.

In the 1993 study, Blumstein added a state-specific analysis. Although the ratio of black-to-white incarceration rates for the United States was 7:1, he discovered that the states ranged widely in their ratios. Minnesota's ratio was the highest at 20.4 and Hawaii was the lowest at 1.5. An interesting finding was that Southern states had lower ratios on average than states in the North and Midwest. Blumstein offered two possible explanations for this result. First, blacks who moved out of the South in the last half century and migrated northward might have been more aggressive, less rooted in their new communities, and living in higher-crime urban areas than those who stayed behind. This would suggest that regions to the north would have a higher population of "crime-prone" blacks. Second, the state incarceration rates were inversely correlated with the ratio of black-to-white incarceration. In the North and Midwest states, where incarceration is applied less frequently, the tendency may be that most of the imprisonments are for more serious offenses, which, in turn, have the highest black-white arrest ratios. A key thing missing from this study was an examination of the percentage of unexplained racial disproportionality in imprisonment for each state. Only ratios of black-to-white imprisonment for the states were provided.

Two key criticisms can be raised concerning the data used in Blumstein's research. The first is that Blumstein relied on arrest statistics generated by the UCR as a measure of racial involvement in crime. Blumstein (1982) justified this approach by citing a study by Hindelang (1978), which found a highly consistent relationship between the racial patterns in UCR arrest data and victim reports for robbery, rape, and aggravated assault. It may be the case that arrest

data are good indicators of criminal involvement for these serious types of crimes. But what about less serious crimes, such as theft and drug offending, in which a greater degree of discretion is likely to factor into arrest? In these cases, the accuracy of arrest rates as a reflection of criminal involvement could be questionable. Although using arrest data when figuring the amount of racial disparity in incarceration may be valid in showing the potential degree of *post-arrest* discrimination, doing so may fail to indicate the amount of discrimination possible between a *criminal act* and the *use of incarceration*.

A second criticism of Blumstein's approach is that he used surveys of prison populations rather than prison admissions. The potential flaw in this technique is that the lengths of prison terms vary, with some inmates serving very long sentences. If arrest rates during a certain year are compared with the distribution of prison inmates for that same year, or even multiple years, the existence of long-term inmates will complicate comparisons. That is, distributions in the prison population will reflect not only recent prison admissions, but, to some extent, those who received prison sentences many years in the past.

Langan's Approach and Results

Langan (1985) addressed these methodological concerns in a study that examined whether the higher offending rates of blacks accounted for their high representation in prison. Instead of selecting official arrest data as a measure of criminal activity, Langan used victimization data from the National Crime Survey (NCS) (an early version of the National Crime Victimization Survey). Seven criminal acts were examined through the NCS, which included rape, robbery, aggravated assault, simple assault, burglary, larceny, and auto theft. Only victim descriptions of race for crimes reported to police authorities, as opposed to all crime victim accounts, were

examined in the analysis. This is because the criminal justice process does not begin until the police become aware of a crime. Whether or not a victim reports a crime may be influenced by race, but this is a matter beyond the control of the justice system. To measure imprisonment, Langan used the more appropriate prison admissions data rather than prison populations. Admissions data were analyzed for the years 1973, 1979, and 1982. The data for 1973 and 1979 were taken from inmate surveys conducted under the Bureau of Justice Statistics, and the 1982 data were supplied by a census of state prison admissions.

The results of Langan's study, even given these improvements in the research design, were consistent with those reported by Blumstein. Unlike Blumstein who focused on ratios of black-to-white incarceration rates, Langan concentrated solely on the difference between the expected and observed imprisonment of blacks. The number of black offenders expected to go to prison was calculated by "multiplying the number of black offenders (represented in the NCS) by the crime-specific probability of a white offender going to prison" (Langan 1985: 678). For 1973, there was no significant difference between the expected and observed population of blacks admitted to prison. Significant differences were found for 1979 and 1982, but 84% and 85% of the disparity between crime victim accounts of perpetrator race and prison admissions for blacks during these two years, respectively, was explained by the high involvement of blacks in crime. Notably, the exclusion of drug crimes, which have the lowest amount of explained racial disproportionality (Blumstein 1982; 1993), undoubtedly led to a somewhat inflated aggregate figure of explained disparity between the expected and observed incarceration of blacks.

Single-State Studies

Two studies (Austin & Allen 2000; Hawkins 1986) have examined explained amounts of racial disparity in imprisonment within a single state. Hawkins (1986) replicated Blumstein's method in North Carolina with a special focus on examining racial disparity among crime types. He compared whites with nonwhites (although 97% of nonwhites were classified as black). Using UCR arrest data and prison admissions data and incorporating a one-year lag period (e.g., 1978 arrests compared with 1979 admissions), Hawkins found greater unexplained disparity in North Carolina than what Blumstein observed at the national level (i.e., 20 percent). During 1978-1979, 30% of the disproportionality was left unexplained, 41% was unexplained in 1980-1981 and 42% in 1981-1982. These differences in unexplained disproportionality highlight the importance of examining imprisonment disparity over multiple time periods.

Austin and Allen (2000) studied prison disproportionality in Pennsylvania by looking at a five-year span for both arrests (1990-1994) and prison commitments (1991-1995) with one-year lags for commitments. Their analysis was limited to males and compared whites and non-whites (Hispanic and nonHispanic blacks, American Indians, and Asians). The state's five-year average for the percentage of racial disproportionality in commitments explained by arrest (using Blumstein's calculation method) was 42.39%, but jumped to 70.43% when drug offenses were excluded from the analysis. Contrary to Hawkins (1986), unexplained disparity for each specific commitment year varied minimally in Pennsylvania.

Making crime-specific comparisons with Blumstein's (1982) original work, Hawkins notes that "Blumstein reported that only one crime category showed a *lower* rate of actual, as compared to expected, black imprisonment—a small, residual 'other' category" (1986: 257). This

means that blacks who committed crimes in this residual category were underrepresented in prison rather than overrepresented. In contrast, Hawkins observed that blacks were consistently underrepresented in prison for rape and robbery in North Carolina. Hawkins reported that the unexplained disproportionality of his measure of assault (aggregate of all assaults) was roughly six to seven times greater than what Blumstein found for aggravated assault. Hawkins' results also suggest differences between his findings and those of Blumstein for homicide, burglary, larceny, and auto theft. Austin and Allen also compared their crime-specific findings with Blumstein's (1982, 1993) and concluded: "With the exception of rape, for every offense with which our 1991 findings may be compared, his explained disproportionality dwarfs ours" (2000: 213).

The unexplained racial disparity for drug crimes in North Carolina (average of 45% across 1979, 1981, and 1982 admissions) was very similar to Blumstein's national results for drug offenses (49% in 1979 and 50% in 1991). In contrast, Austin and Allen (2000) reported that only 26% of racial differences in prison commitments for drug crimes in 1991 in Pennsylvania could be explained by arrest. Interestingly the seriousness of the drug offense was unable to account for such a small percentage of explained disparity. That is, the greater involvement of blacks in more serious drug crimes in Pennsylvania, such as narcotics and cocaine offenses, which typically carry more serious sentences, could not explain the huge racial disparity unaccounted for by arrest in drug-related incarceration.

The two single-state studies do not completely support the liberation hypothesis. Austin and Allen (2000) concluded, consistent with the liberation hypothesis, that a greater amount of disproportionality could be explained by arrest for more serious than for less serious crimes. For

example, they pointed out that the explained disproportionality was higher for murder, rape, and robbery than burglary and theft. However, Austin and Allen also found that aggravated assault had lower explained disproportionality than simple assaults, burglary, and theft. Some of Hawkins' (1986) results also go against the liberation hypothesis. Murder (the most serious crime) had a higher percentage of unexplained disproportionality than rape and robbery in North Carolina. Similar to Austin and Allen, Hawkins found more unexplained disproportionality for assault than for burglary and larceny.

Studies of State and Regional Variation in Explained Imprisonment Disparities

Although Blumstein (1993) offered ratios of black-to-white imprisonment for 42 different states, a key thing missing from all of the studies reviewed thus far is a comparison of the percentage of unexplained racial disproportionality in incarceration *across* states. Three studies (Crutchfield, Bridges & Pitchford 1994; Hawkins & Hardy 1989; Sorensen, Hope & Stemen 2003) have addressed this void using Blumstein's (1982, 1993) method.

Hawkins and Hardy (1989) examined 39 states, excluding those states in which blacks comprised less than one percent of the population. Similar to Blumstein, Hawkins and Hardy used UCR arrest data (Part I Index crimes plus "other assaults") for 1979 and Department of Justice figures for prisoners confined at year-end 1980. They found that the percentage of racial disproportionality in incarceration attributable to disproportionate arrest rates varied greatly across states, ranging from approximately 22% in New Mexico to 96% in Missouri. In 17 of the states studied, 50% or less of racial disproportion in prisoner populations was a result of black-white differences in arrest rates. Moreover, in nine states, only 40% or less of the racial disproportion was explained by arrest. These findings led Hawkins and Hardy (1989: 79) to

conclude that “Blumstein’s figure of 80% would not seem to be a good approximation for all states.”

Crutchfield, Bridges, and Pitchford (1994) focused on arrests for violent crimes in 48 states using 1981 UCR data and 1982 data on prisoner populations from a census of state prisons. For the nation, Crutchfield et al. found that 89.5% of the racial disproportionality could be explained by arrest. Although this figure is considerably higher than Blumstein’s (1982) 80%, the difference is probably attributable to the exclusion of drug offenses in Crutchfield et al.’s analysis. Similar to Hawkins and Hardy (1989), however, they found that much variability exists among the states. Crutchfield and associates observed that the percentage of explained imprisonment disparity was highest in North Central (Midwest) states (115%), followed by the West (91%), South (87.5%), and Northeast (70%). High levels of variation were found in each region. For example, the percentage of explained disparity among Northeast states ranged from 15% in New Hampshire to 107% in Pennsylvania. A weak correlation was found between the black-white ratios for arrest and imprisonment across states. As a result, both studies show that the potential for imprisonment based on discriminatory factors is much higher in some states than in others.

Sorensen, Hope, and Stemen (2003) have produced the most recent study on racial disproportionality in imprisonment. These researchers used 1996 UCR arrest data (violent, property, weapons, and drug offenses) and 1997 prison admissions data from the National Corrections Reporting Program to examine black-white disparity in 23 states. For all states combined, 67% of the racial disparity in imprisonment could be explained by arrest; however, this percentage jumped to 79% when drug offenses were excluded. Sorensen and associates also

examined percentages of explained prison disparity longitudinally from 1985 to 1997. This analysis indicated a massive drop in the late 1980s for drug crimes. Explained racial disparity for drug offenses was just below 80% in 1985 and fell to about 55% in 1988, after which it leveled off and remained relatively steady up to 1997. Neither the explained disparity for violent crime or property crime had any extreme fluctuations during the study period. The overall percentage of explained disparity did drop from approximately 80% in 1985 to about 70% in 1997, which the authors attribute in large part to the decline for drug offenses.

The liberation hypothesis again received some, but not total, support. Sorensen et al. (2003: 78) write: “With the exception of aggravated assault, violent crimes generally had the highest percentages of disproportionality explained by arrest, with over four-fifths explained. Property crimes closely followed violent crimes with about three-fourths of racial disproportionality explained by arrests.” Just above half (51%) of the disproportionality in imprisonment for drug crimes is explained. An odd finding (and very contrary to the liberation hypothesis) is that the explained disparity for stolen property crimes (92%) was higher than that for rape and robbery (84% and 88% respectively).

Regional differences in explained disproportionality appear relatively small in Sorensen et al.’s (2003) study. For all offenses studied, the explained disproportionality ranged from 60.2% in the West to 67.4% in the Midwest (with Northeast and South falling in between). When excluding drug offenses, the range increased, with 68.7% explained disproportionality in the West and 81.5% in the Midwest. While the Midwest had the highest percentage of explained disproportionality, it also had the highest black-white imprisonment ratios. The black-white imprisonment ratios in the Midwest were the highest even after those ratios were adjusted for

black-white differences in arrest. Sorensen and his associates calculated these adjusted imprisonment ratios by first multiplying the unadjusted black-white incarceration ratio by the amount of unexplained disproportionality. The product of this multiplication yields the ratio of black-white imprisonment that is not explained by arrests. This ratio is then added to the expected black incarceration rate when arrests are controlled. The sum of this final calculation provides the adjusted ratio of black-white imprisonment.

Sorensen and associates comment that the difference between the proportions of blacks and whites that live in urban areas is far greater in the Midwest than in any other region. The researchers also found a strong Pearson's correlation ($r=.753$, $P<.001$) between "the proportion of Blacks living in urbanized areas relative to Whites and the Black-to-White arrest ratios" (Sorensen et al. 2003: 81). These findings led to the conclusion that because crime is highest in urban areas and blacks live in cities in greater proportion to whites in the Midwest than elsewhere, black-white imprisonment rates in the Midwest are naturally higher.

With the exception of the liberation hypothesis, tests of theoretical explanations in the imprisonment disparity literature have been limited. Hawkins and Hardy (1989) are an exception by testing Blalock's (1967) minority group threat hypothesis. This hypothesis "proposes that *there is a relationship between the level of racial inequality and the size of the minority population in a given area*" (italics in original) (Hawkins & Hardy 1989: 83). In a basic correlation analysis, Hawkins and Hardy examined the relationship between the degree of explained incarceration disparity across states and (1) the percentage of blacks in a state; (2) the percentage of the black urban population in a state; and (3) the ratio of black-to-white income in a state. Only the percentage of urban blacks was significantly related to a state's explained

disproportionality. Hawkins and Hardy (1989: 87) found that “the greater the concentration of a state’s population in urban areas, the less the Black-white incarceration ratio is accounted for by the Black-white arrest ratio for serious crime.” While the state percentage of blacks nearly reached significance, its relationship with the disparity in black-white incarceration was in an unexpected, negative direction.

Although support for Blalock’s hypothesis was rather weak, Hawkins and Hardy cautioned that their state-level analysis might have masked county-level differences. The authors noted that Blalock’s hypothesis assumes “some level of interracial interaction as a basis for the differential effects of minority population size across areas. The distribution of the Black population within states of the United States and the ‘local’ character of most criminal justice processing make it unlikely that the state is the appropriate unit of analysis to investigate state-by-state imprisonment differences by race” (Hawkins & Hardy 1989: 86).

Conclusions of Prison Disproportionality Research

Although the Blumstein-inspired research on imprisonment disparity is limited to eight studies, some general themes are identified: 1) a national figure of racial disproportionality in incarceration is not generalizable to the states due to tremendous variation across states; 2) explained disparity in a particular location can vary over time, especially when disaggregating drug offenses; 3) drug offenses consistently have one of the lowest amounts of disparity explained by arrest; 4) incarceration for drug offenses has a considerable impact on the overall amount of explained disproportionality; 5) the liberation hypothesis has received partial support as an explanation in this literature; 6) the proportion of blacks living in urban areas appears to influence the amount of imprisonment disparity attributable to arrest; 7) the Midwest has the highest black-

white imprisonment ratios, even after adjustments are made to account for explained disproportionality; and 8) few theoretical explanations of prison disproportionality have been tested.

Applications for Future Use of the Blumstein Method

What is most striking about research related to the Blumstein method is not what has been concluded so far but rather all that awaits investigation through the method. Future applications of the Blumstein formula for calculating explained disparity in imprisonment and adjusted imprisonment ratios of Sorensen et al. (2003) are numerous and far-reaching. We discuss these opportunities below.

1. *The use of Blumstein formula and Sorensen et al.'s adjusted imprisonment ratio at the county level is long overdue.* At this point only state and national level studies of racial disparities in imprisonment have been carried out. State-level studies on racial disparity in imprisonment indicate that national figures mask differences across states. Similarly, it is very likely that state-level studies are masking intercounty variation (Weidner & Frase 2003). Although the power to punish and incarcerate state criminals comes from the state government, this power is applied at the county level and jurisdictional differences can influence outcomes. Bridges, Crutchfield, and Simpson (1987) note that counties have their “own set of officials—police, often city and county police departments, a prosecutor, and judges. Furthermore, each county court typically has its own rules of criminal procedure above and beyond rules of procedure enacted for the state” (349).

Just as relevant as the formal procedures that differentiate county criminal justice systems is that these systems respond to local political, economic, and social pressures (Bridges et al.

1987). Some of these *local pressures* may reflect state and national issues, but others are homegrown or location-specific. As the United States is an aggregate of diverse state entities, states are likewise aggregations of counties that are to some extent diverse from one another. For example, several counties in a state that has a majority of registered Democrats may have an overwhelming proportion of conservatives. One county may be dealing with a methamphetamine epidemic, while a county on the opposite end of the state is absorbed with crack-cocaine distribution and a county in between is witnessing no drug problem at all. One county may rely on an industrial-based economy, whereas another is completely agricultural. Racial tensions and attitudes toward minority groups can also vary. A high-profile event of racism in one county may unleash intense animosity within the local community, while a county with similar demographics and no visible incidents of racism is experiencing no racial tension. The critical point here is that the officials and practitioners who are turning the wheels of justice respond to a range of factors that differ by county. Because decisions to incarcerate and sentences of imprisonment are imposed at the county level, potential for intercounty variation necessitates analyses of imprisonment disparity among counties.

Although county-level studies are most appropriate for examining imprisonment disparity, this does not mean that state-level policies have no influence in meting out punishment. Sorensen and Stemen (2002) found that states with sentencing guidelines have lower incarceration rates and prison admission rates than others. That guideline states are more lenient is not surprising considering that the purpose of sentencing guidelines is to reduce overly harsh sentencing for certain offenses (Lubitz & Ross 2001). Sentencing guidelines by their nature limit opportunity for differences in prison sentences for offenders convicted of similar crimes and with similar

criminal histories. In turn, counties in sentencing guideline states may experience less imprisonment disparity than counties in states without these policies. Interestingly, Sorensen and Stemen found that determinate sentencing, mandatory sentencing, truth-in sentencing, and three strikes laws had no impact on state incarceration or prison admission rates. However, these results must be interpreted cautiously as Sorensen and Stemen only looked at imprisonment for a single year. These state-level characteristics as well as others (e.g, drug control policies) could still be having effects on county-level decision making that are not detectable through state-level studies. Any analysis of racial disparity in confinement at the county level then should seriously consider using Hierarchical Linear Modeling to control for state-level influences.

2. The Blumstein formula and adjusted imprisonment ratio have tremendous potential for monitoring locations of possible discrimination. Recall that any amount of disparity in incarceration that cannot be explained by arrest indicates the potential amount of discrimination in imprisonment (Blumstein 1982). Higher amounts of unexplained disparity suggest the potential for more discrimination. One method of monitoring potential discrimination in confinement has been to create an index value of disproportionality. This index is calculated by dividing the proportion of minorities who are incarcerated by the proportion of at risk minorities (“at risk” defined by age) in the general population. This method is used when states investigate the disproportionate minority confinement of youth in accordance with a 1992 amendment of the Juvenile Justice and Delinquency Prevention Act of 1974 (Leiber 2000).

The serious flaw with this approach is that it gives no attention to differential arrest or criminal involvement. This omission is crucial because criminal activity and subsequent arrests can influence the volume of incarceration. Sorensen et al. (2003) have found differences

between unadjusted black-white imprisonment ratios and black-white imprisonment ratios that were adjusted to account for arrest differences. For example, the black-white incarceration ratio for Minnesota was 24.0 (a very striking and disturbing result). However, after adjustment for arrest differences, the ratio for Minnesota was 6.5. Wisconsin had a black-white imprisonment ratio of 20.8, but the adjusted ratio for that state fell to only 11.9. This means that at first (looking only at the unadjusted ratios) it appeared that Minnesota had more black-white imprisonment disparity than Wisconsin. But when the differences in arrest between blacks and whites are taken into account, Wisconsin shows approximately twice as much disparity as Minnesota.

Scanning for disparities in incarceration with no control for arrest rates or criminal involvement can lead to gross overestimations of racial disproportionality. These inaccuracies can further lead to large investments of time, money, and manpower in the investigation of an illusory problem. Incorporating the Blumstein method into assessments of black-white disparity in incarceration is a much better way to probe for imprisonment discrimination. It is not a foolproof approach, as unexplained disproportionality can be caused by factors other than discrimination such as differences in criminal history and socioeconomic status. Even so, comparing adjusted black-white ratios offers a sound technique for detecting potential discrimination and identifying geographical areas of concern that require additional investigation.

3. *Research on racial disparities in imprisonment should be coupled with and guide research that examines discrimination by judges in imposing prison sentences.* Whereas the Blumstein-style research on prison disproportionality is limited to eight studies, a much larger research literature has developed that focuses on sentencing decisions made directly by judges. This research shows that when considering legally relevant factors such as criminal history and

offense seriousness, black and Hispanic offenders are at times more likely than whites to be sentenced to prison (See Spohn 2000 for a review). What this illustrates is that the potential discrimination found when using the Blumstein method cannot be explained in all cases by nondiscriminatory factors.

The strength of the Blumstein method in searching for unexplained disparity is that it offers broad geographic coverage to detect potential discrimination. Also, the means of conducting this research is relatively cheap and quick. The clear limitation of the method is that it cannot specify exactly how much of the unexplained disproportionality is actually due to discrimination. Fortunately, sentencing research on incarceration decisions can pick up where the racial disproportionality research leaves off by giving a more precise estimation of the true amount of discrimination. This is done by intensively examining case data in counties and calculating the odds of a particular minority group being sentenced to incarceration in comparison to the majority (typically whites). Without any guidance from an assessment of unexplained prison disproportionality, however, sentencing research is not driven toward trouble spots. Research on how prison sentences are imposed by judges can be very time consuming and laborious. A consequence of this is that blindly examining a county for discriminatory sentencing practices and later learning that no discrimination exists in that location ultimately results in an unprofitable and potentially massive expenditure of resources. Thus, Blumstein-style research should be used by sentencing researchers to identify where to investigate discrimination.

4. Calculations of amounts of unexplained disproportionality and adjusted black-white imprisonment ratios offer important dependent variables for investigating racial discrimination in incarceration. Although researchers have compared the predictors of the black incarceration rate

versus the white incarceration rate (Bridges et al. 1987), this technique does not necessarily explain why disproportionality exists. That is, the predictors of black and white incarceration rates can be different when these rates are the same. For example, a study found that while levels of stress and burnout among police officers were similar across gender, the predictors of stress and burnout between males and females varied (McCarty, Zhao & Garland 2007). Different predictors in imprisonment rate studies can indicate what factors influence black incarceration and white incarceration separately, but without a variable measuring the difference between the two types of rates there is no way to be certain of what causes those differences.

A measure of racial disparity in imprisonment that incorporates the Blumstein method can serve as a dependent variable for investigating why disparities exist. Existing theories on social discrimination can be tested in this research to explore the causes of racial disparities in incarceration. Neo-Marxist theories that emphasize class struggle and its discontents certainly apply. When power-holding groups perceive that their socioeconomic wellbeing is threatened by disadvantaged or marginal classes, discrimination may occur (Blalock 1967; Jankovic 1977; Quinney 1977; Spitzer 1975). Hawkins and Hardy (1989) have used unexplained disparity in imprisonment as a dependent variable to test a conflict theory known as Blalock's minority group threat hypothesis. As described earlier, Blalock's argument is that negative and unjustified responses to minority groups grow as minority group size increases. Hawkins and Hardy found partial support for this hypothesis, although they cautioned that their state-level analysis should be backed by a more methodologically appropriate county-level examination. What is disturbing is that Hawkins and Hardy's study provides the only search for correlates of race disparities in confinement. Even more troubling is that no multivariate analyses have been performed.

Clearly a strong need exists to develop a better understanding of this issue. Only speculations can be made at this point. For example, people living in politically-conservative counties may be less receptive to notions of racial and ethnic inclusiveness that leads to more discriminatory confinement. It would be interesting—although challenging—to conduct an intercounty study that examines the degree to which levels of acceptance of minorities among racial-majority residents influence imprisonment disparities. Major upward trends in crime could also impact prison disproportionality. Increases in crime rates, especially for violent and drug offenses, could spark moral panics that result in the targeting of minority populations who are perceived to be associated with the crime increase. From a Weberian perspective, urban counties should experience less disparity in imprisonment than rural counties due to more formalized criminal justice processes that limit opportunities for discretionary decisions. Variables representing concepts similar to those discussed here have influenced incarceration rates in prior studies (e.g, see Bridges et al. 1987; Greenberg & West 2001; Stucky, Heimer & Lang 2005; Weidner & Frase 2003: 379); however, uncertainty remains as to how exactly they affect *racial disparity* in incarceration.

The Blumstein-style research has compared whites with blacks and whites with nonwhites. Future studies should focus (whenever feasible) directly on several minority groups in addition to blacks, such as Hispanics and Asians. In time perhaps this research can further develop to the point where specific groups within ethnic/racial categories are compared (such as breaking down the broad category of Hispanic-Americans into Mexican-American, Cuban-American, Salvadorian-American, etc.). This will require more thorough reporting practices by

law enforcement and correctional agencies than exist now. It is noteworthy that gender disparities in prison confinement also exist and could be investigated through the Blumstein method.

5. *The Blumstein method and adjusted imprisonment ratio have important applications as independent variables.* The extent of racial disparity in incarceration could generate many harmful social consequences. Residents in counties with high levels of unexplained racial disparities may experience less confidence in the criminal justice system and less civic responsibility, resulting in greater polarization of minority communities. Research by Clear and Rose has found that excessively high incarceration rates can have a detrimental impact in socially disorganized communities. It may be that these negative consequences are intensified when high incarceration is coupled with discriminatory imprisonment. On the other hand, high incarceration in minority-populated areas may be viewed as discriminatory even when no hard evidence of discrimination exists. Right now the unique effect of disproportionate incarceration on minority communities is unknown.

Whether *perceptions* of unfair confinement practices truly reflect *actual* and unjustified inequalities is also unknown. It would be interesting to compare the degree to which social variables (e.g., faith in the justice system, respect for the law) are affected by *perceptions* of racial inequality in imprisonment versus a more objective measure of imprisonment disparity such as the adjusted imprisonment ratios. Perceptions may be the driving force of public reactions. If so, showing improvements toward correcting unjustified disparity by monitoring disparity through the Blumstein method (or illustrating the nonexistence of disparity through the same means) could help to ease frustrations and tensions in minority communities. The use of the Blumstein method and adjusted imprisonment ratios could then function as a public education tool.

Conclusion

Discrimination in the incarceration of minorities clearly stands out as today's most critical issue in the study of "race, crime, and justice." Research has shown that a portion of the disparity between black and white incarceration rates can be attributed to differences in arrest rates. However, the research also indicates that a sizeable portion of this disparity could be a product of discriminatory treatment. As the criminal justice system is rooted in a philosophy of equality and justice for all, policymakers, practitioners, and academics must continue to closely monitor the potential for discrimination and vigorously search for its sources. What is at stake are: (a) the credibility and efficiency of our justice system and (b) preventing the harmful consequences caused by discriminate incarceration on minority individuals, their communities, and social integration efforts.

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